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ABSTRACT

This paper compares data on the prevalence of alcohol and other drug use by students in grades 8 and 12 across four sizes of communities. Data from the American Drug and Alcohol Survey (ADAS), administered in approximately 250 communities during the 1992-93 and 1993-94 school years, were analyzed for four community sizes: very small (population under 2,500); nonmetropolitan, not adjacent to a metropolitan area; nonmetropolitan, adjacent; and metropolitan (population of 50,000 or more). Community size comparisons are presented for drug use patterns by gender; perceived availability of substances and alcohol; and drug-related problems with law enforcement, money, school, family relationships, and other social relationships. Substances investigated include alcohol, marijuana, stimulants, cocaine, crack, inhalants, legal stimulants, LSD, heroin, and daily use of cigarettes and smokeless tobacco. Results indicate a lower aggregate level of drug use among youth from very small, rural communities, and a higher level of drug-related problems among metropolitan youth. There was little difference in alcohol use among 12th-graders by community size, but alcohol use caused more problems for rural youth than for others. The data clearly illustrate that even the smallest communities were not immune to substance abuse problems. However, variability among communities in the same size category reflects the myriad factors influencing substance use. An appendix lists 34 styles of drug involvement in the ADAS reporting system. (Contains 10 data tables and figures and 14 references.) (SV)

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Drug and Alcohol Use Among Youth in Rural Communities

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INTRODUCTION

Characterizing variations in substance use by youth residing in rural areas is not a straightforward undertaking due in part to difficulties in defining rural, and in part to differences in community characteristics across whatever definition is used.[1] The primary purpose of this chapter is to compare data on the prevalence of alcohol and other drug use by 8th and 12th graders across four sizes of communities, from very small rural to metropolitan. Community size classifications were based on Bureau of the Census county-level data and the Beale code (Lobao 1990) and include schools in counties that: (1) have populations of < 2,500; (2) are nonmetropolitan, nonadjacent (i.e., communities in counties with no city of 50,000 or more inhabitants and that are not integrated economically and socially with a population center of 50,000 or more in a nearby county); (3) are nonmetropolitan, adjacent (i.e., communities in counties with no city of 50,000 or more inhabitants but that are adjacent to a metropolitan county); and (4) are metropolitan counties. Community size contrasts are presented for drug use patterns by gender, perceived availability of substances and alcohol, and other drug-related problems.

BACKGROUND

Over the past several years, a number of studies of substance use in rural communities have appeared, but compared with urban-oriented research, data are lacking that could lead to an understanding of how substance use impacts rural communities. The two major national representative studies—Monitoring the Future (Johnston et al. 1992, 1993) and the National Household Survey on Drug Abuse (Courtless 1994)—have typically reported only nonmetropolitan-metropolitan comparisons. Nevertheless, reports from both studies have shown that while past rates of alcohol and other drug use were considerably lower in nonmetropolitan than metropolitan communities, the gap has been closing. In part this convergence is explained by the greater decline of drug use among youth living in large cities than among those living in other areas. Thirty-day

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prevalence rates of alcohol use by 12th graders in large cities dropped from 78 percent in 1980 to 53 percent in 1991, a decrease of 25 percentage points. By contrast, in nonmetropolitan areas the decrease was only 17 percentage points, from 69 percent in 1980 to 52 percent in 1991 (Johnston et al. 1992).

Three important observations concerning rural substance use emerge from an edited review (Edwards 1992). First, rates of substance use for rural and urban adolescents are converging. Second, the etiology of substance use among rural and urban populations is similar, presumably because the impact of family, peers, and school on drug use is relatively constant. Third, variability across rural communities suggests that community-level factors influence use. It is this third area in which rural-based research generally has been lacking. What have been generically classified as rural communities differ greatly along a number of dimensions such as population density; distance from metropolitan areas; ethnic and racial makeup; age and gender profiles; levels of unemployment and poverty; type of employment base (e.g., manufacturing, farming, mining, fishing, timber, mixed); availability of medical/mental health facilities and other treatment services; and prevailing attitudes about the importance of community efforts for the prevention of substance use. It is not possible at this time to assess the impact of all of these factors with the two national representative samples because either the data are not available or the rural subsample is too small for meaningful analyses. Therefore, examination of these variables using nonrepresentative samples offers an opportunity to develop an understanding of community influences and provide information that can be utilized in planning and policymaking.

The data presented here are from The American Drug and Alcohol Survey™ (ADAS) (Oetting et al. 1985; Oetting and Beauvais 1990), a commercially available, school-based drug and alcohol survey.[2] Because data are collected by community, analyses presented here are based on the aggregate data from approximately 250 communities that administered the ADAS to 8th and/or 12th graders in their schools during the 1992-93 and 1993-94 school years. Data from these school years were combined so there would be sufficient numbers of communities in each size category for meaningful analyses.[3] The ADAS database is a aggregation of numerous samples of convenience and includes more than 225,000 students from more than 200 communities each year with wide geographic dispersion across the United States.

PREVALENCE OF SUBSTANCE USE BY ADOLESCENTS IN RURAL AREAS

Lifetime Prevalence

Lifetime prevalence rates of alcohol, tobacco, and other drug use are based on responses to questions asking, "Have you ever tried (name of substance)?" Rates for 8th and 12th graders by community size are presented in table 1. There are significant differences across community size for 8th graders in rates of having tried alcohol, marijuana, stimulants, and tobacco, and for 12th graders in having tried marijuana, stimulants, cocaine, and lysergic acid diethylamide (LSD). With the exception of smokeless tobacco, these differences are accounted for by lower rates in the smallest rural communities (populations < 2,500). Rates in the nonmetropolitan-nonadjacent and adjacent communities are similar to metropolitan rates, with two exceptions. First, the rates of marijuana use for metropolitan 8th and 12th grade youth are substantially higher than those for youth in midsized communities. Lifetime prevalence rate for metropolitan 12th graders is twice that of their counterparts in small, rural areas (41.9 percent versus 20.7 percent), whereas rates for communities in the middle two size categories are about halfway between these two extremes. Second, a somewhat similar pattern is apparent for LSD; the rate reported by metropolitan 12th graders is almost 2½ times as high as the rate in the smallest, rural areas, with the larger nonmetropolitan communities falling in between. These findings are consistent with findings from the 1987-88 and 1988-89 ADAS (Peters et al. 1992), although the magnitude of differences reported at that time was generally smaller. The large difference in lifetime prevalence of marijuana use between rural and metropolitan 12th graders apparent in these data was not evident at that time.

Last Month Prevalence

Although lifetime prevalence rates are useful in gauging the amount of exposure a given population of youth has had to drugs, they are not useful in determining current levels of use; whether a drug has been used in the past month is more appropriate for this purpose. Responses to the question, "How often in the last month have you used (name of drug)?" have been collapsed to indicate any use of alcohol, tobacco, and other drugs in the month before administration of the survey and are presented in table 2. Consistent with the lifetime prevalence data, there are few significant differences across community size except for marijuana and

LSD, where rates reported by metropolitan youth are higher than those of their rural counterparts. Rates are particularly low for youth living in communities with populations less than 2,500. Metropolitan youth report much higher rates—1 in 5—compared with 1 in 13 for youth in communities with populations less than 2,500. Daily use of cigarettes is less prevalent among youth in these very small communities as well, while differences among the larger nonmetropolitan and metropolitan communities are negligible. However, compared with metropolitan youth, daily smokeless tobacco use is much more prevalent among nonmetropolitan youth, with 1 in 10 12th graders in small rural communities reporting daily use.

Drug Involvement Prevalence

Prevalence rates do not take into consideration the frequency of use or the combinations in which drugs may be used. To get a more accurate picture of adolescent drug use, the ADAS utilizes a total drug involvement score based on an empirically derived, hierarchical classification system that utilizes frequency, recency, type of drug(s) used, and combinations of drugs used. Based on their pattern of use, each individual is assigned to 1 of 34 drug use styles or types, which then can be grouped into categories representing high, moderate, and low involvement with substances. (See appendix for further description of the drug involvement score.)

Table 3 shows the percentage of youth in each drug use category across community size. This measure is helpful in gauging the extent to which drug and alcohol use are an integral part of a youth's life. This is important because the more integral these behaviors are, the more they may interfere with important developmental and socialization processes, such as relationships with parents and peers and school success. While differences in drug use involvement scores across community size are not large at the 8th grade level, there are some significant differences, and more are apparent by 12th grade.

For 12th graders, there are small differences in the percentage of heavy alcohol users across community size. However, compared with larger communities, significantly more youth in the smallest communities are light alcohol users. The drug involvement classification system is hierarchical, therefore these findings do not necessarily mean that more rural youth are light users of alcohol, rather it indicates that more rural youth fall into the category of light alcohol use unaccompanied by other drug use.

TABLE 1. *Lifetime prevalence of substance abuse by grade and community size.*[a,b]

	8th grade				12th grade			
		Nonmetro	Nonmetro			Nonmetro	Nonmetro	
Ever tried	< 2,500	Nonadj.	Adjacent	Metro	< 2,500	Nonadj.	Adjacent	Metro
Alcohol	64.4%	69.1%	71.1%	72.4% *	90.0%	90.3%	89.7%	91.1%
Gotten drunk	22.5%	29.0%	28.2%	26.9%	68.8%	71.0%	68.5%	69.1%
Marijuana	8.6%	11.8%	12.7%	14.9% **	20.7%	32.2%	34.0%	41.9% *
Stimulants	2.9%	6.2%	5.7%	5.2% *	7.9%	13.6%	12.9%	10.8% *
Cocaine	2.0%	2.2%	2.5%	2.8%	3.6%	5.8%	6.0%	7.2% *
Crack	2.1%	2.0%	2.1%	2.5%	1.8%	3.0%	2.5%	2.8%
Inhalants	11.2%	15.6%	14.4%	15.5%	9.5%	11.8%	10.7%	11.1%
Legal stimulants	1.4%	2.3%	2.3%	2.1%	2.4%	4.0%	5.1%	5.1%
LSD	2.6%	3.7%	3.8%	4.2%	5.4%	7.1%	9.1%	13.3% ***
Heroin	1.6%	1.9%	1.8%	2.1%	0.6%	1.1%	1.3%	1.9%
Cigarettes	38.3%	47.7%	48.9%	48.1% *	60.4%	65.7%	61.6%	62.7%
Smokeless tobacco	23.9%	25.9%	24.1%	18.4% ***	44.9%	40.9%	34.4%	30.8%
# of communities	21	47	63	122	20	49	61	120

KEY: * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$. a = Data are community averages from the combined 1992-93 and 1993-94 ADAS databases. b = Size designations are based on Census Bureau county-level data and Beale code classifications. "Nonmetropolitan" counties are those that do not have a city with 50,000 or more inhabitants and that are not integrated economically and socially with a population center of 50,000 or more in a nearby county. "Adjacent" and "nonadjacent" refer to whether the nonmetropolitan county is or is not adjacent to a metropolitan county.

TABLE 2. *Substance use by grade and community size.*

	8th grade				12th grade			
Used in last month	< 2,500	Nonmetro Nonadj.	Nonmetro Adjacent	Metro	< 2,500	Nonmetro Nonadj.	Nonmetro Adjacent	Metro
Alcohol	23.7%	27.5%	27.5%	30.0% *	58.6%	54.7%	52.7%	57.7%
Gotten drunk	7.1%	10.0%	9.1%	9.4%	31.8%	37.4%	32.3%	35.9%
Marijuana	3.4%	4.6%	4.5%	5.9%	7.5%	10.8%	13.1%	20.7% ***
Stimulants	0.8%	2.1%	2.0%	2.0% *	1.5%	3.9%	3.8%	2.9%
Cocaine	0.5%	0.7%	0.8%	1.0%	0.6%	1.9%	1.8%	2.0%
Crack	0.4%	0.6%	0.6%	0.7%	0.3%	0.2%	0.8%	1.0%
Inhalants	4.0%	5.6%	5.2%	5.6%	1.0%	1.4%	2.3%	2.1%
Legal stimulants	0.1%	0.4%	0.4%	0.3%	0.3%	0.3%	0.6%	0.6%
LSD	0.7%	1.1%	1.1%	1.8% ***	1.3%	1.8%	3.2%	3.7% ***
Heroin	0.5%	0.6%	0.7%	0.6%	0.2%	0.1%	0.4%	0.6%
Cigarettes daily	5.3%	8.2%	10.1%	9.1% **	13.7%	19.8%	19.2%	21.2% *
Smokeless tobacco daily	3.4%	4.2%	3.8%	2.3% **	10.1%	12.3%	7.2%	4.8% ***
# of communities	21	47	63	122	20	49	61	120

KEY: * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$.

TABLE 3. *Drug involvement by grade and community size.*

	8th grade				12th grade			
		Nonmetro	Nonmetro			Nonmetro	Nonmetro	
	< 2,500	Nonadj.	Adjacent	Metro	< 2,500	Nonadj.	Adjacent	Metro
1. Multi-drug users	1.0%	1.6%	1.9%	1.9%	1.2%	3.4%	3.5%	4.0%
2. Stimulant users	0.2%	0.4%	0.4%	0.5%	0.5%	0.8%	1.3%	1.3% **
3. Heavy marijuana users	0.2%	0.1%	0.2%	0.3%	0.3%	0.6%	0.7%	2.6%
4. Heavy alcohol users	1.1%	1.7%	1.3%	1.3%	7.8%	12.0%	7.2%	8.7% *
Total high involvement	2.5%	3.8%	3.8%	4.0%	9.8%	16.8%	12.7%	16.6% *
5. Occasional drug users	6.7%	9.5%	9.9%	10.0%	6.0%	6.6%	7.2%	6.6%
6. Light marijuana users	2.2%	2.8%	3.2%	4.0%	5.4%	7.5%	7.6%	12.4% ***
Total moderate involvement	8.9%	12.3%	13.1%	14.0% *	11.4%	14.1%	14.8%	19.0% ***
7. Drug experimenters	9.1%	10.5%	10.3%	11.0%	10.5%	14.8%	14.9%	13.7%
8. Light alcohol users	13.7%	13.8%	13.2%	14.2%	36.1%	21.3%	23.6%	20.6% ***
9. Negligible or no use	65.8%	59.6%	59.6%	56.8% **	32.2%	33.0%	34.0%	30.1%
Total low involvement	88.6%	83.9%	83.1%	82.0% *	78.8%	69.1%	72.5%	64.4% ***
# of communities	21	47	63	122	20	49	61	120

KEY: * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$.

TABLE 4a. *Lifetime prevalence of substance use by community size, grade, and gender (8th grade).*

	< 2,500		Nonmetro Nonadjacent		Nonmetro Adjacent		Metro	
Ever tried	Male	Female	Male	Female	Male	Female	Male	Female
Alcohol	69.2%	60.3%	71.4%	67.0%	73.2%	69.1%	74.3%	71.1%
Gotten drunk	23.7%	21.3%	31.3%	26.6%	28.5%	26.8%	27.7%	26.1%
Marijuana	10.3%	6.9%	13.8%	9.5%	14.4%	11.3%	16.8%	12.9%
Stimulants	3.5%	2.4%	6.1%	6.2%	5.7%	5.9%	4.9%	5.4%
Cocaine	2.9%	1.1%	2.4%	1.9%	2.9%	2.2%	3.1%	2.3%
Crack	2.7%	1.5%	2.1%	1.8%	2.5%	1.8%	2.5%	2.2%
Inhalants	13.4%	8.8%	16.1%	15.0%	14.8%	14.0%	15.4%	15.8%
Legal stimulants	2.1%	0.9%	2.5%	2.0%	2.3%	2.2%	2.3%	2.0%
LSD	3.8%	1.3%	4.3%	3.1%	4.3%	3.4%	4.6%	3.9%
Heroin	2.3%	0.9%	2.3%	1.6%	2.2%	1.4%	2.5%	1.8%
Cigarettes	39.3%	37.3%	48.0%	47.8%	49.6%	47.4%	48.2%	48.7%
Smokeless tobacco	39.6%	9.5%	41.5%	10.9%	41.0%	9.1%	29.7%	7.2%
# of communities	21		47		62		120	

TABLE 4b. *Lifetime prevalence of substance use by community size, grade and gender (12th grade).*

	< 2,500		Nonmetro Nonadjacent		Nonmetro Adjacent		Metro	
Ever tried	Male	Female	Male	Female	Male	Female	Male	Female
Alcohol	92.0%	88.0%	92.0%	88.5%	89.5%	90.0%	91.2%	90.7%
Gotten drunk	73.6%	64.5%	74.5%	67.3%	72.9%	62.8%	71.9%	65.6%
Marijuana	22.9%	19.3%	36.5%	28.7%	38.4%	27.8%	45.4%	37.6%
Stimulants	9.8%	6.4%	14.5%	13.5%	14.1%	11.7%	10.6%	11.8%
Cocaine	4.7%	2.8%	7.1%	3.8%	7.7%	4.2%	8.2%	6.7%
Crack	2.0%	1.7%	3.5%	1.6%	3.6%	1.4%	3.4%	2.6%
Inhalants	13.6%	5.9%	15.4%	8.7%	13.0%	8.6%	13.9%	8.7%
Legal stimulants	3.1%	1.9%	4.6%	3.3%	6.2%	4.0%	5.6%	5.0%
LSD	7.2%	3.8%	9.0%	5.7%	10.9%	7.3%	14.4%	11.8%
Heroin	0.9%	0.4%	1.5%	0.7%	1.9%	0.7%	2.1%	1.9%
Cigarettes	61.9%	58.4%	65.2%	63.5%	62.8%	59.4%	61.6%	63.8%
Smokeless tobacco	66.5%	24.2%	65.8%	15.1%	58.7%	10.7%	50.5%	11.2%
# of communities	20		45		61		120	

It is possible that some youth from larger communities are using alcohol in about the same quantity and frequency as the rural youth, but that they are also using marijuana or some other drug, which causes them to be classified at a higher involvement level. As might be expected from prevalence data, marijuana use is a major factor in explaining the differences across communities of various sizes. Few in-school youth are heavy marijuana users no matter what the community size, but almost 3 times as many metropolitan 12th graders use marijuana as those living in the smallest rural communities (15.0 percent versus 5.7 percent).

GENDER DIFFERENCES

Consistent with some studies of rural populations, rates for marijuana and alcohol use by males are higher than those for females, although the differences are small (Gleaton and Smith 1981; Globetti et al. 1978; Harrell and Cisin 1980; Preston 1968-69). Moreover, these data do not reflect significant gender differences across community size. The one major exception to this finding is for smokeless tobacco: Males are far more likely than females to have tried it, regardless of community size. The issue of gender differences in rural areas deserves more attention. The number of very small rural communities included in this study may be too small to reveal differences in gender use patterns from those of larger communities. Further, the wide-ranging gender-by-ethnicity differences in alcohol use found by Edwards and associates (1995) suggest that ethnicity may differentially affect drug use among males and females. Other factors such as the nature of the primary employment in rural communities may reinforce or diminish male-female role differences, and, in turn, impact gender patterns of drug use.

PERCEIVED AVAILABILITY OF SUBSTANCES

Table 5 shows perceived availability of drugs based on those who responded either "very easy" or "fairly easy" to the question, "How easy do you think it would be for you to get each of the following types of drugs if you wanted some?" More youth in metropolitan and nonmetropolitan communities indicate that it would be "easy or fairly easy" to get drugs than youth in the smallest rural communities. In addition, for some drugs such as marijuana and LSD, perceived availability is also lower in the two nonmetropolitan community types

TABLE 5. *Perceived availability: Percent who think it would be easy or fairly easy to get drugs by grade and community size.*

	8th grade					12th grade				
		Nonmetro	Nonmetro			Nonmetro	Nonmetro		
	< 2,500	Nonadj.	Adjacent	Metro		< 2,500	Nonadj.	Adjacent	Metro	
Alcohol	80.0%	78.1%	79.2%	81.0%		95.7%	96.5%	95.9%	96.2%	
Marijuana	29.5%	36.0%	39.4%	44.0%	***	58.3%	77.3%	77.0%	82.5%	***
Stimulants	22.8%	28.4%	28.1%	30.6%	**	42.7%	58.5%	58.0%	57.5%	***
Cocaine	16.9%	20.1%	21.2%	23.6%	**	28.6%	41.2%	38.8%	46.4%	***
Inhalants	67.8%	67.0%	68.2%	68.8%		73.6%	82.6%	78.4%	81.1%	**
LSD	14.6%	19.6%	20.6%	25.0%	***	28.6%	42.6%	42.3%	53.0%	***
Other psychedelics	14.0%	18.1%	18.7%	21.7%	***	24.9%	37.9%	34.7%	42.4%	***
Downers	25.3%	28.6%	28.9%	31.0%	*	38.9%	56.9%	52.9%	54.1%	***
PCP	13.8%	16.8%	17.6%	20.4%	***	21.8%	30.8%	28.9%	34.1%	***
Heroin	15.1%	17.2%	19.3%	20.8%	*	21.1%	29.6%	27.2%	32.7%	***
Other narcotics	16.2%	20.8%	22.9%	23.5%	**	25.9%	38.2%	35.3%	40.5%	***
Tranquilizers	21.3%	24.4%	24.3%	26.2%		32.7%	47.7%	43.6%	46.0%	***
Cigarettes	79.7%	78.5%	80.3%	81.3%		93.5%	95.2%	95.4%	95.3%	
# of communities	21	47	63	122		20	48	61	120	

KEY: * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$.

than in the metropolitan communities. Given the prevalence rates for these two drugs, the assessment of availability is probably accurate. Overall, there appears to be some protection for youth from the smallest rural communities in that drugs may be less available to them. However, this protection apparently does not extend to larger communities that are some distance from metropolitan areas. The proportions of youth from these communities who believe that drugs are readily available are about the same as those of the metropolitan communities.

CONTEXTS IN WHICH ALCOHOL AND OTHER DRUGS ARE USED

Figure 1 shows the percent of 12th graders, by community size, who responded to the question, "During the last 12 months, where have you used alcohol?" Response categories indicated the number of times alcohol had been used in each setting and included "never," "1 to 2 times," "3 to 9 times," or "10 or more times." With one very important exception, there are few differences by community size in when and where youth indicate they use alcohol. The exception is "drinking while driving around." Half of the 12th graders in the smallest rural communities report using alcohol "while driving around," as opposed to only one in four metropolitan 12th graders. In nonmetropolitan, nonadjacent communities, two out of five youth report using alcohol "while driving around" compared with a rate of one in three for youth in nonmetropolitan, adjacent communities. Although levels of alcohol use do not differ by community size, the low population density and geographic isolation of rural communities generally means that young people spend more time in cars than their metropolitan counterparts. Distances that must be traveled to school and entertainment events as well as to friends' homes are more likely to be greater for very rural youth than for those from larger communities. The implications of these findings are obvious, especially when one considers the unlit and poorly marked conditions of many country roads.

Where and when youth use drugs differs considerably across community size. Responses by 12th graders to the question, "During the last 12 months, where have you used marijuana or any other illegal drug (except alcohol)?" showed similar contexts for drug use as those reported for drinking, with the most frequently mentioned settings being "at weekend parties" and "at night with friends." Interestingly, almost as

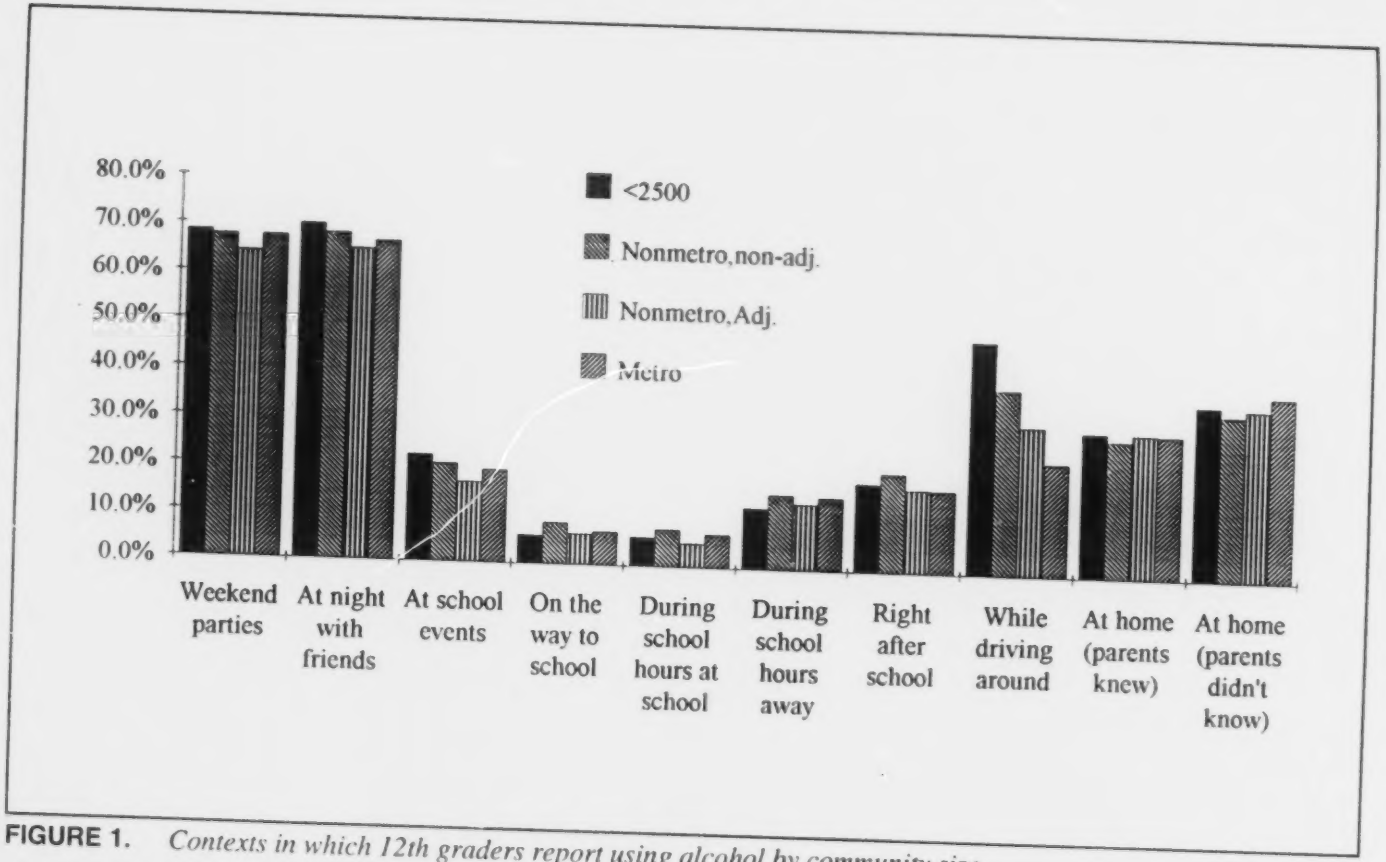

FIGURE 1. *Contexts in which 12th graders report using alcohol by community size.*

many metropolitan youth indicate they use drugs "while driving around" as indicated that they use alcohol "while driving around."

PROBLEMS REPORTED BY 12TH GRADERS FROM DRUG AND ALCOHOL USE

Two of the questions asked on the ADAS have to do with problems related to alcohol and drug use. Although prevalence rates of lifetime and recent alcohol use are similar across community size, 12th graders from the smaller rural communities report as many or more problems from their alcohol use as do their counterparts in larger communities. As noted above, 12th graders from small rural communities are much more likely to report that they use alcohol "while driving around"; the problems they report are consistent with this. There is a significant difference across community size in endorsement of the items "gotten a traffic ticket" and "had a car accident," with the rates being higher in more remote rural communities. Moreover, despite the fact that there was no significant difference across community size in percentage of youth who have been drunk, rural youth may be consuming more alcohol when they do get drunk. The evidence that suggests this is the higher rates of endorsement for "passed out" and "couldn't remember what happened" among those residing in the more remote areas. As might be expected based on the higher prevalence of rates for drug use in metropolitan and larger nonmetropolitan communities, drugs cause more problems for metropolitan youth than youth in smaller communities, basically because more of them are using drugs (figure 2). The higher level of drug use among metropolitan youth is reflected in the problems they are having from their drug use (figures 3 and 4). One in 7 metropolitan youth report problems with schoolwork due to drug use compared with about 1 in 12 youth from small, rural communities. In summary, substance use is causing significant problems for youth whether they live in remote rural areas or metropolitan communities, but for rural youth the substance is most likely to be alcohol, whereas urban youth are more likely to report problems from drug as well as alcohol use.

COMMUNITY VARIABILITY

The data presented thus far would indicate that there is a progression in prevalence of drug use with the least use occurring in small, rural communities followed by larger nonmetropolitan communities, and the most use in metropolitan communities.

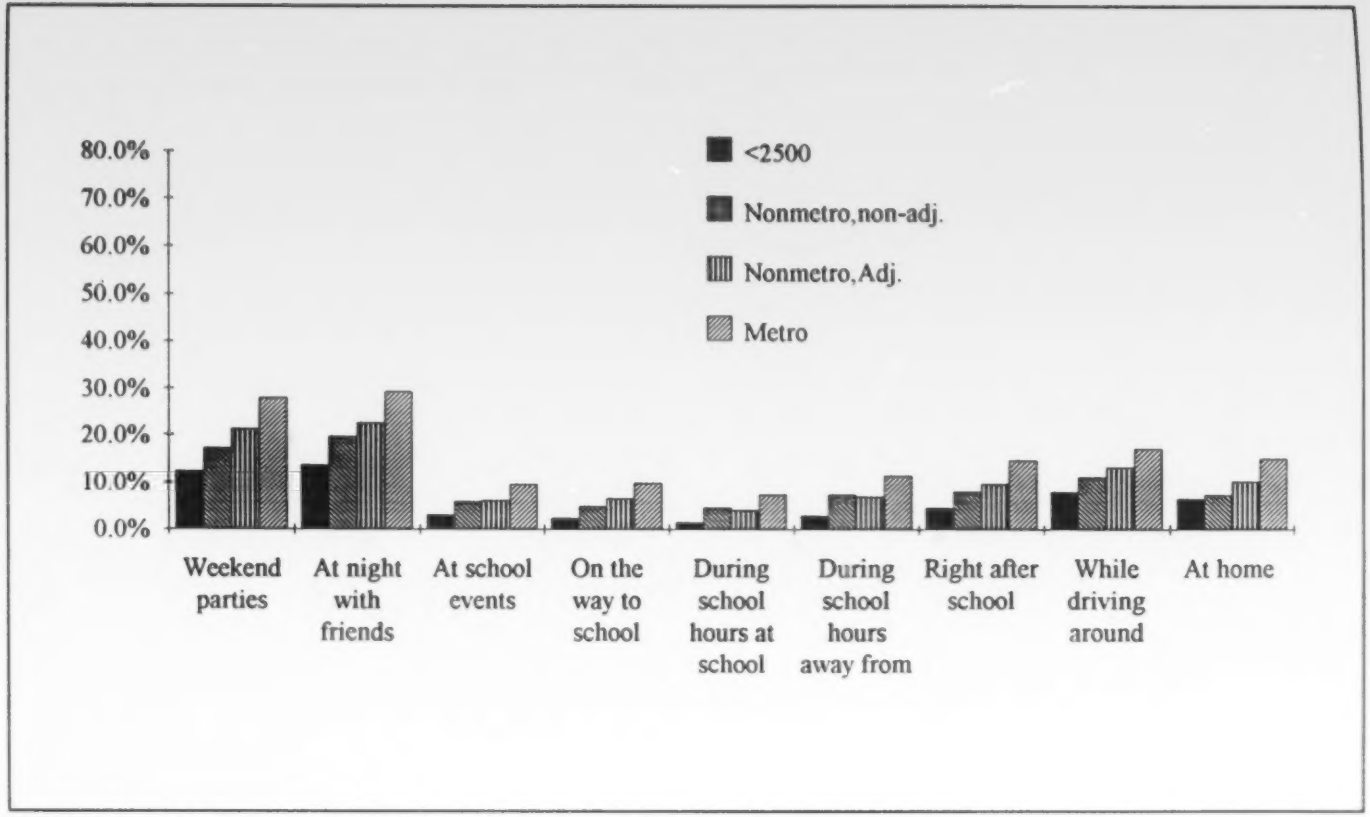

FIGURE 2. *Contexts in which 12th graders report using drugs by community size.*

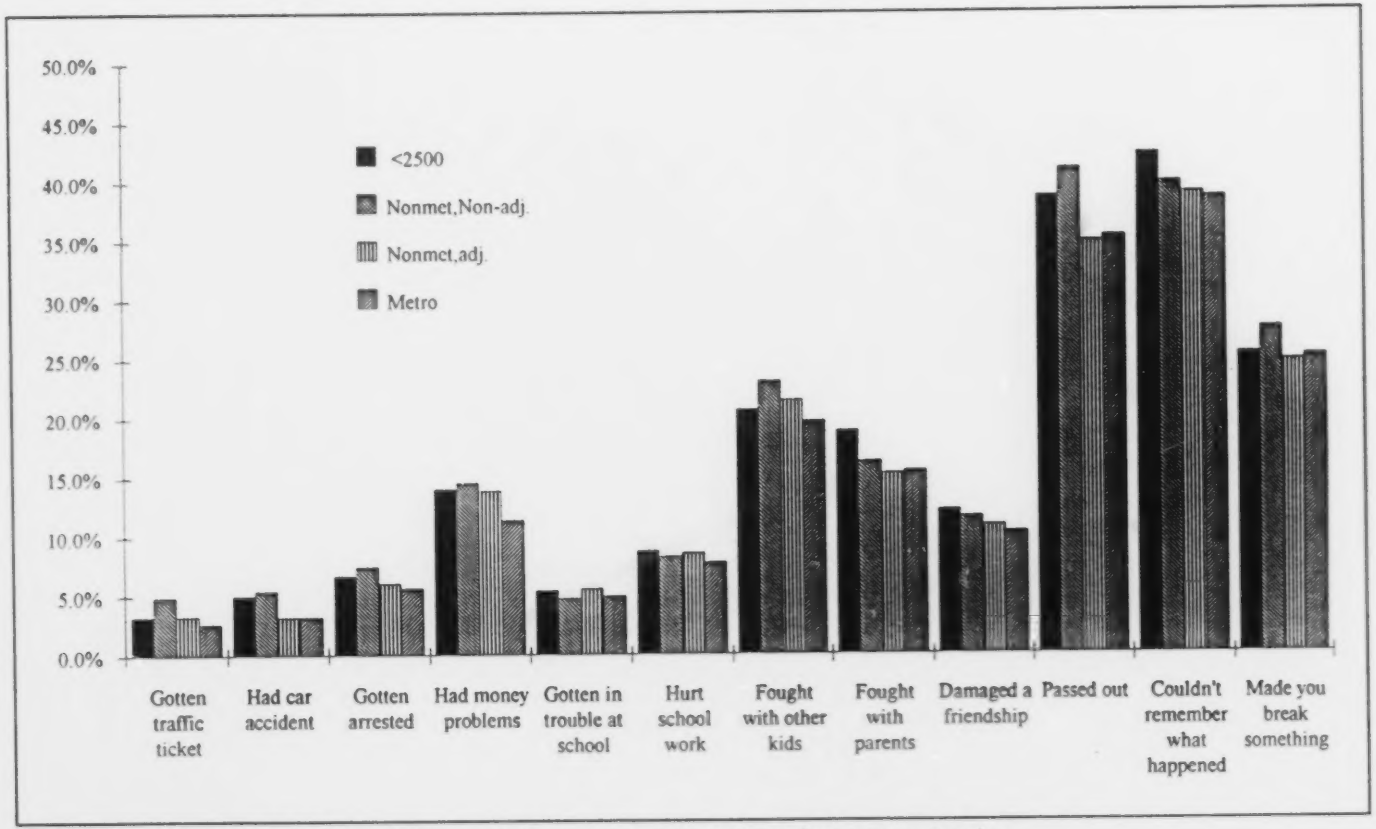

FIGURE 3. *Problems 12th graders report having from alcohol use by community size.*

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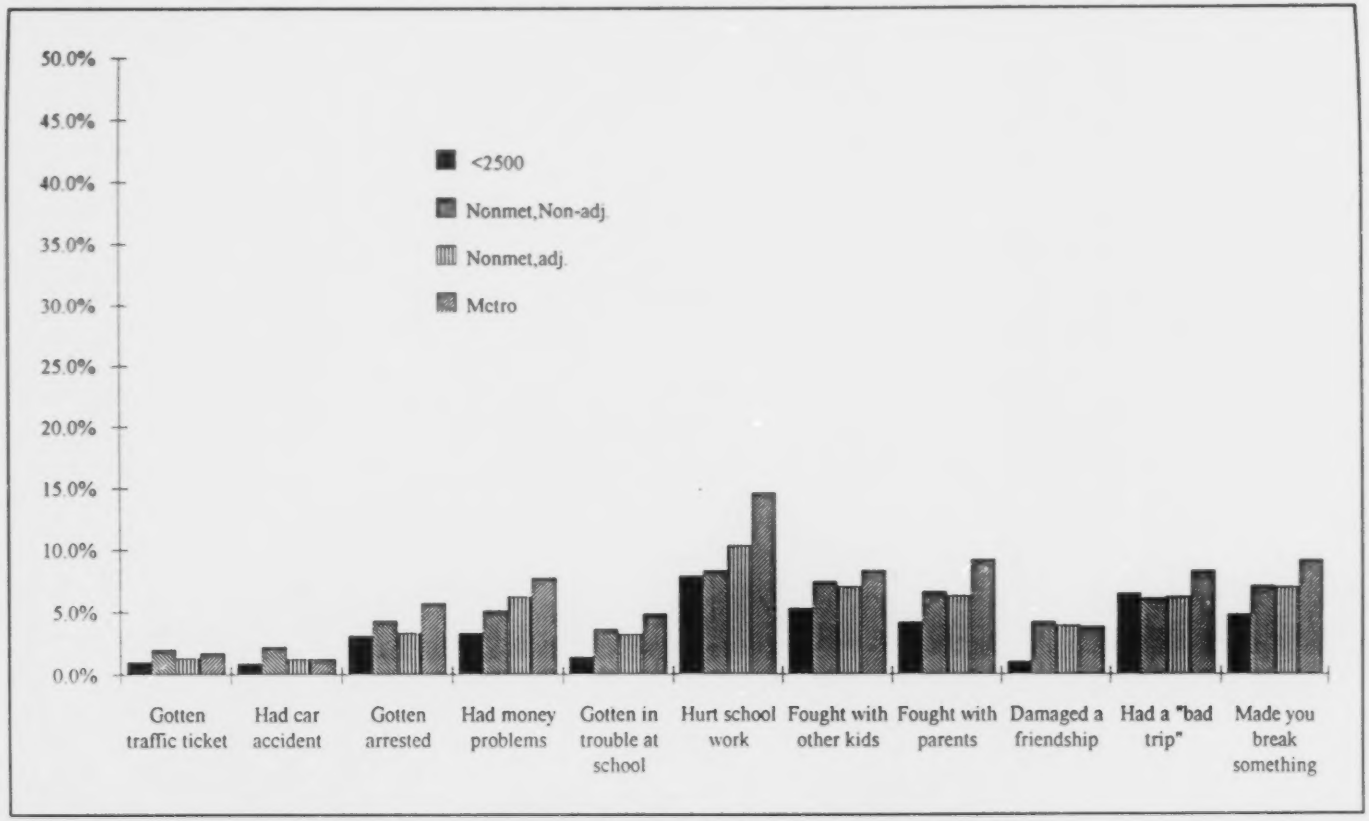

FIGURE 4. *Problems 12th graders report having from their drug use by community size.*

However, it is important to note that there is a great deal of variation in youth substance use from one small, rural community to another. To illustrate this variability, table 6 presents substance use prevalence data from two midwestern communities. These communities are within 150 miles of each other, have populations of less than 5,000, and are in counties that are nonmetropolitan and not adjacent to metropolitan counties. Clearly, substance use is a much greater problem among youth in community A than in community B. At the time of the survey, one in four 12th graders in community A had used marijuana within the past month. The level of hallucinogen use reported by 12th graders in community A is also unusually high, with nearly one in four having tried them and 10 percent having used them recently. Less than 1 in 5 12th graders is drug free in community A, compared with almost half of the students in community B. The problem in community A is not confined to older youth, however. Only about half of the eighth grade students are drug free, compared with approximately three-fourths of their counterparts in community B.

Clearly the prevention and intervention needs of these communities are not the same. The widespread substance use by youth in community A calls for immediate, substance-specific intervention including community-wide measures. Appropriate activities might include town forums to educate youth, parents, and community members about the extent of drug use in the community along with a discussion of family, peer, school, and community factors affecting the level of use. Participants at these forums also might generate suggestions for ways to increase monitoring and supervision of activities by parents, school personnel, youth activity leaders, and law enforcement officials. At the same time, a more generalized approach to substance education and prevention must be considered, with attention to improving the family, school, and community environments so that youth are offered more supportive situations for the development of healthy and successful lifestyles. Community B apparently has some existing elements that are supportive of youth remaining drug free. This community can concentrate on identifying these protective factors and building on them as they develop programs and activities to reach youth who are drug involved. Even though the level of drug involvement among youth is less in community B than in community A, it is important that community members recognize that drugs are available and are being used. Moreover, this community has a substantial youth alcohol problem that needs to be addressed.

TABLE 6. *Variability in drug use patterns in small communities.*[1]

	Community A 7-8th grade	Community B 8th grade	Community A 12th grade	Community B 12th grade
Ever tried				
Alcohol	69.0%	65.0%	92.0%	80.0%
Marijuana	21.0%	8.0%	46.0%	8.0%
Stimulants	9.0%	5.0%	36.0%	14.0%
Inhalants	21.0%	11.0%	18.0%	14.0%
Hallucinogens	7.0%	2.0%	23.0%	4.0%
Used in past month				
Alcohol	34.0%	21.0%	73.0%	40.0%
Marijuana	9.0%	3.0%	26.0%	4.0%
Stimulants	4.0%	3.0%	5.0%	4.0%
Inhalants	11.0%	5.0%	3.0%	6.0%
Hallucinogens	3.0%	1.0%	10.0%	2.0%
Drug involvement				
High				
1. Multi-drug users	5.0%	2.0%	5.0%	4.0%
2. Stimulant users	1.0%	0.0%	0.0%	2.0%
3. Heavy marijuana users	0.0%	0.0%	0.0%	0.0%
4. Heavy alcohol users	2.0%	0.0%	13.0%	4.0%
Moderate				
5. Occasional drug users	11.0%	7.0%	13.%	6.0%
6. Light marijuana users	6.0%	2.0%	15.0%	2.0%
Low				
7. Tried a drug	12.0%	9.0%	15.0%	8.0%
8. Light alcohol users	9.0%	11.0%	21.0%	29.0%
9. Negligible or no use	55.0%	70.0%	18.0%	46.0%

KEY: 1 = Data are from two midwestern communities with populations < 5,000.

SOURCE: Table adapted from Edwards 1994.

CONCLUSION

In comparing the substance use of youth by community size, patterns do emerge. First, these data illustrate that there is a lower aggregate level of drug use among youth in very small, rural communities (populations less than 2,500) than among those in larger rural and metropolitan communities. For example, there are particularly large differences for marijuana use, with the percentage of metropolitan youth who have tried marijuana being almost twice that of small rural community youth and significantly higher than that of other nonmetropolitan youth. In addition, problems related to drug use are much higher for metropolitan than nonmetropolitan and rural youth. This is not surprising given the higher rate of marijuana use among metro youth. However, there is little difference in the percentage of 12th graders using alcohol by community size, but the use of alcohol causes more problems for rural youth than for other youth. This may partially be because fewer alternative activities (such as movies, coffee houses, pool halls, recreation centers) are available to rural youth and drinking becomes one of the primary purposes for congregating, which may lead to more consumption at any given time. Also, the relative proximity of youths' homes and other congregating points where youth drink in metropolitan areas precludes as much traveling by car as is necessary in less densely populated communities.

Community risk for youth substance abuse is not simply a matter of population density or proximity to urban areas. The contrast between the two rural communities presented here illustrates that even communities similar in size and geographic location can have very different youth drug use profiles. Further research is needed to pursue the issue by asking, "What community factors account for differences in drug use?" One thing is clear, however: using national level data to characterize rural drug use is inadequate to capture community variability. Rural communities differ on myriad factors such as economic conditions, ethnic representation, strength of religious institutions, local versus consolidated schools, and proximity to marijuana-growing or amphetamine production areas. There may also be community variability on such factors as which drugs are being used, whether younger or older students are involved, availability of drugs and alcohol, and substance use patterns over time.

The data presented here clearly illustrate that even the smallest communities are not immune from substance use problems. However, variability across communities makes it imperative that each individual community assess its particular problems so that limited resources may

be appropriately targeted. Rural communities cannot afford to take a shotgun approach and deal with all substances more or less equally in prevention programs.

NOTES

1. When one talks about "inner cities," although across the country they may vary widely in many ways, there are generally some commonalities. Most places defined as "inner cities" are plagued with poverty, high unemployment, higher rates of crime, and other assorted social ills. So-called rural communities, however, can be widely diverse in their attributes. In some places residents may not remember the last time they locked the door to their home; in others, residents may feel unsafe both in and out of their home unless they are literally armed. The common ground rests solely on the classification as rural and the low population density in the immediate vicinity. To classify large numbers of communities, however, one must rely on some standard such as population, distance from an urban community, and/or economic dependence on a nearby urban community. The Beale code often used by the Department of Agriculture does a fairly good job of separating communities on these factors, but there are problems with this classification as well. For example, it is based on county designations, the presence or absence of population centers of a given size within the county, and whether the county is adjacent to a county with a large urban population center. Unfortunately, this does not take into consideration the geographic size of the county—in the West, many counties cover literally thousands of square miles, while in the Midwest and East counties are generally much smaller, so that the designation of nonadjacent county may mean very different things in different parts of the country.

2. The American Drug and Alcohol Survey™ is available through RMBSI, Inc., P.O. Box 1066, Ft. Collins, CO 80522; telephone 1-800-447-6354.

3. It should be noted that although they technically fit the category of metropolitan, the communities classified as "metropolitan" in the ADAS database are predominantly communities with populations of less than 500,000. Of the 120 schools included in the metropolitan sample, approximately two-thirds are in counties with largest place

< 500,000 and one-third are in counties with largest place > 500,000. These data should not, therefore, be considered representative of the largest cities in the United States (for detail on larger communities, see Johnston et al. 1993).

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APPENDIX

The Drug Involvement Scale utilized in the ADAS reporting system is an empirically derived, hierarchical measure of the extent to which drugs and/or alcohol are an integral part of a youth's life. The scale classifies youth into 1 of 34 different styles, each depicting a pattern of drug use based on quantity, frequency, and whether or not the drug is used in combination with another. These styles are then collapsed into more general groups that can be further categorized as representing high, moderate, or low involvement with substances.

Style	Group	Level of involvement
1. Drug dependent 2. Polydrug 3. Heavy downers 4. Uppers and downers 5. Marijuana and downers 6. Young polydrug	1. Multi-drug	
7. Heavy uppers 8. Uppers and hallucinogens 9. Marijuana and cocaine 10. Marijuana and uppers	2. Stimulant use	1. High
11. Heavy marijuana and other drugs 12. Heavy marijuana and heavy alcohol 13. Heavy marijuana only	3. Heavy marijuana	

Style	Group	Level of involvement
14. Alcohol dependent or predependent 15. Heavy alcohol, occasional other drug 16. Heavy alcohol and marijuana 17. Heavy alcohol only	4. Heavy alcohol	
18. Marijuana and occasional other drug 19. Light marijuana, occasional other drug 20. Occasional use of drugs only 21. Occasional inhalant 22. Occasional downers 23. Occasional uppers 24. Occasional other drug	5. Occasional drug	2. Moderate
25. Light marijuana and alcohol 26. Light marijuana	6. Light marijuana	

Style	Group	Level of involvement
27. Tried more than one drug 28. Tried one drug 29. Tried marijuana	7. Drug experimenters	
30. Light alcohol 31. Very light alcohol 32. Used alcohol 33. Tried alcohol 34. Never tried	8. Negligible or no use	3. Low